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ABSTRACT

Based on four very basic but important premises, the Instructional Monitoring Plan has resulted in significant learning gains by middle school students in the St. Louis (Missouri) public school system. First, the staff must define what is to be taught by the teacher and learned by the students. Second, all faculty members must be aware of the curriculum that is to be taught. Third, a plan with specific objectives and timetables to teach the curriculum must be developed. And fourth, continuous and intense supervision must be carried out by the instructional leader of the school: the principal. The success of the plan requires a commitment to improve, a systematic process of defining curriculum and instructional activities, and an extensive commitment of time by school administrators to direct involvement in leadership on a daily basis and ensure that the plan is carried out at all levels of the educational system. Included in the appendix are charts showing the correlation between California Achievement Test category objectives and the curriculum of the school system. (KM)

IMPROVING STUDENT ACHIEVEMENT

THROUGH A SYSTEMATIC INSTRUCTIONAL MONITORING PLAN

Paper Presented at AASA
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IMPROVING STUDENT ACHIEVEMENT THROUGH A SYSTEMATIC INSTRUCTIONAL MONITORING PLAN

The emphasis upon improving the teaching and learning process in American schools during the last few years has focused attention on identifying practices that will produce substantial growth in student performance. Critics have pointed to numerous causes of alleged deficiencies in schools including incompetent teachers, watered-down curriculum, lack of discipline, and many other conditions that all of us have heard far too many times. In the face of intense criticism and what some have referred to as a "national crisis in education" several educators have responded with some new programs, curricula and instructional strategies that allegedly will miraculously transform the proficiency of American students in academic achievement.

I do not have any miracle cures to share with you today. If you came looking for such information, I am sorry to disappoint you.

The program that I will present this morning does not include any new discoveries in curriculum, nor does it have any new electronic devices. Instead, the Instructional Monitoring Plan that will be described is based upon several very basic but extremely important actions: 1) carefully defining that which is to be taught by teachers and learned by students, 2) communicating to staff the specifics of that which is to be taught and learned, 3) developing a plan with specific objectives and timelines to teach the curriculum and 4) comprehensive supervision by teachers, principals and central office administrators of daily instructional activities.

The basic activities that I have just listed are not new. You have heard them many times. But as the same ingredients may be found in different recipes, there often will be different results in finished products coming from the oven. It is frequently the variations in proportions of ingredients and the conditions of cooking, that result in quite different finished products.

I hope to share with you how the above four basic conditions when refined into specific actions and interrelated activities have resulted in significant student achievement gains for schools that have implemented the model in the St. Louis Public School System.

BASIC PREMISES FOR THE INSTRUCTIONAL MONITORING PLAN

There are three major premises inherent in the formation and operation of the Instructional Monitoring Plan. The first basic premise is that if students are expected to improve and demonstrate high performance in academic achievement, they should receive specific instruction in those academic areas in which they will be expected to demonstrate learning and mastery. Specifically, the curriculum should include all content and skills over which students will be tested.

A second basic premise is that the school principal sets the instructional leadership tone at an individual school. In general, school faculty members are motivated, influenced and guided more by what their principal says and does than they are influenced by central office administrators.

A third premise is that effective leadership by a principal requires his/her active involvement in the daily operations of

planning, implementing and supervising the instructional process.

ORIGINAL DEVELOPMENT OF THE INSTRUCTIONAL MONITORING PLAN

The Instructional Monitoring Plan described in this paper was developed three years ago. Its initial implementation occurred in 31 elementary, middle and high schools.

Several refinements have been made to the Plan during the last three years. In August, 1984, the administrative operations of the St. Louis Public School System was organized on elementary, middle and secondary levels. In 1984-85 and this year, the Instructional Monitoring Plan is being implemented in all middle schools in the St. Louis Public Schools.

DEFINING THE CURRICULUM THAT IS TO BE TAUGHT BY TEACHERS AND LEARNED BY STUDENTS

It is a very logical principle that if students will be expected to know and master certain skills and knowledge, they should have specific instructional experiences covering these skills and knowledge. Despite this fact, it does not always follow that the school curriculum and the content of tests agree. Several years ago when an initial comparison was made of the school system curriculum and the content of major assessment instruments given to students, it became obvious that students were being tested on certain skills which were not found at all or only on a limited basis in the school system curriculum.

The initial step in planning an instructional monitoring plan is to make certain that the curriculum and tests include similar skills and knowledge. For several years the two main assessment instruments

for students in the St. Louis Public School System were the California Achievement Test and a mastery test entitled, Basic Essential Skills Test, developed by the Missouri State Department of Education. The California Achievement Test was administered to students, kindergarten through grade 12, and the B.E.S.T. was administered to students, grades 8 through 12. A high priority for student proficiency on both of these tests was established by the State Department of Education, the St. Louis Board of Education and local community groups.

The administrative office for which I was responsible conducted an analysis in 1982 of the content found in the California Achievement Test and the Basic Essential Skills Test. The California Achievement Test is organized around skills defined by its publishers as "category objectives". There are over 100 different category objectives. The Basic Essential Skills Test consists of 39 objectives in three major subject areas - reading/language, mathematics, and government/economics.

After identifying specific content in these two instruments, the results were compared to the curriculum of the St. Louis Public School System. As stated earlier, it became obvious that the curriculum of the school system did not contain some of the content and objectives found on the assessment instruments.

The second phase of instructional improvement consisted of developing materials for principals and teachers that listed those skills over which children would be tested, and identified whether those skills were found in the curriculum of the school system. Staff developed a teaching guide entitled, CAT Correlation Skills List, that indicated specific skills over which children would be tested, the frequency of which these skills would be tested, and the extent

and location of these skills in the curriculum of the school system. (Appendix A contains sample pages from the Correlation Skills List.)

The sources for preparing these correlation lists were the "Class Management Guide" that is published by McGraw-Hill, publisher of the California Achievement Test, and study guides prepared by the Missouri State Department of Education for the Basic Essential Skills Test. Some category objectives that were a part of the California Achievement Test represented as high as 20% of the test items for a particular section of the test but were not found in the school system's curriculum.

In the case of the Basic Essential Skills Test, the social studies curriculum of the school system was most deficient in covering all of the objectives found on the government/economics section of the BEST. In other situations it was obvious that some objectives on both the California Achievement Test and the BEST which represented high percentages of test items were not taught by teachers until the end of the school year and consequently might not be included in instructional activities prior to students taking tests. From these analyses, our administrative office identified specific skills, content, and objectives that would be a minimum for teaching academic subjects during the school year.

In this discussion we have talked chiefly about basic academic areas which are measured by an accountability test at the end of the school year. The schools, obviously, implement a curriculum of many subjects. For basic academic areas there are objective test accounta-

bility measures. Other subjects such as art, music, and physical education do not have specific objective measures. While the instructional monitoring plan addresses all subjects, the intensity of linking curriculum and objective test assessment is focused on basic academic areas.

COMMUNICATING TO STAFF THE SPECIFIC CURRICULUM THAT IS TO BE TAUGHT AND LEARNED BY STUDENTS

With completion of correlation lists for objectives and content to be taught and tested, our central administrative office began an inservice program for principals in 1983. Staff development activities for principals consisted of a review of the Correlation Skills List pointing out the importance of giving students systematic instructional activities over content for which they would be tested. The inservice also included identification of specific skills and/or content for which only limited materials were found in the St. Louis Public School System curriculum. In such cases emphasis was placed upon teachers developing additional resources to supplement the existing curriculum. It should be noted that since 1983 the school system has prepared additional curricular materials and has expanded the curriculum to cover those areas that were deficient at one time in relationship to skills and objectives contained in assessment instruments.

After inservicing the principals our office established an expectation that they, in turn, would inservice teachers in their schools. A high priority was placed upon the principals carrying out the inservice rather than using specialists from curriculum and staff de-

velopment offices of the school system. This focus was based upon an effort to make principals instructional leaders in their schools.

Although many principals approached these initial tasks with some reservation, their actual leadership activities have resulted in high dividends in relation to teachers' perceptions of principals as instructional leaders. A further condition that is involved in the principals carrying out instructional inservice leadership is that they must be knowledgeable about the curriculum and its implementation in order to complete effective supervision of teaching activities.

Although the correlation lists have been in operation for three years, principals are charged with conducting inservice for their teachers at the beginning of each school year as to specific curriculum objectives and content that are to be taught. Principals review the Correlation Skills List with teachers and use the guides as a resource for instructional planning throughout the school year.

In addition to the language arts, math and social studies curriculum activities described above, the Middle School Office has established certain curriculum expectations in the teaching of science. These expectations have focused on the teaching of laboratory methodology and development of research projects by students. Although there is not a formal assessment of science activities at the end of the school year, there are specific product measurements in relationship to student participation in local and regional science fairs.

DEVELOPING A PLAN WITH SPECIFIC OBJECTIVES AND TIMELINES FOR IMPLEMENTING THE CURRICULUM

Under the Instructional Monitoring Plan each school has responsibility for developing two components: a School Improvement Plan, and a Leadership and Monitoring Plan to be implemented by the principal. The former is developed by the school faculty and includes school programs and activities addressing priorities established by the Board of Education. This year the Board of Education has listed nine priorities. The most critical one addresses improvement of student achievement. The major focus of individual School Improvement Plans naturally addresses this priority. The Instructional Leadership and Monitoring Plan of the principal focuses upon the principal's role in developing school plans, inservicing staff, and supervising the instructional program.

At the beginning of the school year the Middle School Office inservices principals by providing a review of student assessment data for the preceding year. As an example, in August, 1985, the Middle School Office developed a series of reports on student results on the California Achievement Test and Basic Essential Skills Test administered in Spring of 1985. These assessments included comparisons of student results in 1985 to results of previous years, national norms, and quartile rankings of schools. The results included data for both total test batteries and specific category objectives within the test. Schools received test results of all 29 middle schools in the St. Louis Public School System and also their individual school test results. These data were reviewed with the principals by the Middle School Office ad-

ministrators during extensive inservice sessions in August, 1985. The inservice pointed out subject areas in terms of improvement or lack thereof throughout the 1984-85 year. Principals were given a format for review of their individual school data. School administrators were required to analyze data on the basis of growth over a five-year period by individual subject areas, relative standing of their school compared to national norms by each objective on the test, and total growth of their students for the school year.

Principals had the responsibility of presenting data results as described above to their teachers during group and individual inservice sessions in September, 1985. Schools also were charged with setting specific objectives for the school year in terms of average grade equivalents to be achieved by students on the California Achievement Test for the Spring of 1986 as well as percentages of students passing the Basic Essential Skills Test in the Spring of 1986. Minimal objectives for 1986 were established by the Middle School Office for schools that did not achieve at a specific level in the Spring of 1985. For schools that achieved above specified levels in 1985, schools set goals based upon a minimum number of months growth.

In order to bring about the accomplishment of the goals and objectives established in School Improvement Plans, each school is required to establish a systematic process of planning and teaching for the school year. Each teacher prepares a quarterly plan that states objectives for the year including specific C.A.T. and B.E.S.T. objectives that will be taught during a ten-week period of time. Teachers also prepare weekly lesson plans that flow from the quarterly schedules.

The weekly plans include objectives, teaching resources, evaluation process and homework.

The approach of having quarterly and weekly lesson plans requires staff to look at the total school year and plan so that all of the specific objectives which must be taught, are in fact, taught prior to students being tested in the Spring. Principals have the responsibility of reviewing quarterly and weekly lesson plans to assure that teachers have organized in such a manner that they will cover all objectives and that they are making progress in carrying out their plans during each week of the school year.

In order to develop a total school commitment toward improving student achievement, ancillary subject staff are involved in reinforcing basic skills taught in the core academic subjects. This process is accomplished by the principal reviewing with ancillary subject area teachers such as art, music, industrial arts and home economics, those curriculum objectives that are required of students and that can be reinforced in an ancillary subject area. For example, measurement, geometrical figures, and fractions are objectives taught in math classes. These curriculum objectives can be taught and reinforced in industrial arts and home economics classes in such a manner that students are learning basic skills within the context of a different discipline. This involvement of ancillary staff in the reinforcement of basic curriculum objectives, enhances a commitment of all teachers in the total process of achieving high student academic results.

An additional key aspect of developing a school plan for improvement, consists of strengthening student proficiency in test-taking skills. If students are not excellent readers, they may be confused by

the format in which standarized test questions are worded. Seldom do individual classroom teachers prepare tests using the kind of reasoning, syntax and range of answers that are found on standardized achievement tests. As an example, teachers typically do not ask students to give the incorrect answer, instead they have students give the correct answer. Also, teachers typically do not give questions for which all of the answers are correct or all of the answers are incorrect.

Because students who are not excellent readers may be confused by the format of test questions, principals and teachers are stressing the improvement of test-taking skills. Staff members are utilizing commercial products and also are making specific efforts to structure weekly subject area tests in the same format as those found on typical standardized achievement tests.

In summary, the basic elements of developing a plan for improvement consist of being aware of the specific curriculum objectives to be taught, analyzing test data to identify objectives that need special attention, setting specific objectives in terms of months growth and grade equivalents, and developing systematic plans on a quarterly and weekly basis to cover the objectives over which students will be expected to demonstrate mastery.

COMPREHENSIVE SUPERVISION OF THE INSTRUCTIONAL PROGRAM

Successful implementation of a School Improvement Plan requires frequent and systematic supervision by school and central office administrators. As stated earlier in this paper, the principal sets the instructional leadership tone at an individual school. Because teachers are motivated by what the principal says and does, the

leadership of the school administrator in daily supervision of instructional activities is a necessity for successful teaching and learning.

In previous sections we reviewed the role of the principal in helping teachers carry out needs assessments and plan instructional activities including the establishment of school academic goals. Supervision by the principal assures that teachers will stay on target in teaching specific curriculum objectives and will make the most effective utilization of instructional time.

Under the Instructional Monitoring Plan, a key element of supervision is a requirement that principals carry out two extended individual conferences with each teacher during the school year. During these conferences principals review with teachers the following topics: instructional plans of the teacher, academic strengths and weaknesses of the teacher's students, daily classroom operations and climate, and school year calendars for scheduling all objectives to be taught by the teacher.

A second phase of instructional supervision consists of a minimum of two extended classroom observations of each teacher by the principal. At the conclusion of these observations, the principal gives each teacher written feedback in terms of the principal's assessment of teacher proficiency in various instructional, curriculum and classroom management areas.

A third phase of instructional supervision includes a review by the principal of student records, report cards and daily work of students. An additional key requirement of supervision is a review by

the principal of lesson plans prepared by teachers. Ten-week plans, that list major goals and specific curriculum objectives to be taught for one quarter of the school year, are prepared by teachers and reviewed by the principal. In these plans teachers are required to list by name specific instructional objectives over which students will later be tested.

Each week, teachers prepare weekly lesson plans that are built around the major objectives for the quarter. Weekly lesson plans include basic objectives to be taught during the week, resources that will be used, evaluation processes, and homework assignments. Principals are charged with reviewing these weekly lesson plans on an ongoing basis and providing feedback to teachers.

The expectations for supervision by principals described above, require an extensive commitment of time by school administrators to instructional leadership. When the expectations first were assigned to principals, they were informed that the task of supervision could not be delegated to administrative assistants or other instructional staff members in the school. The purpose of charging the principal with daily and detailed supervisory responsibilities follows the basic premise stated at several points in this paper. In order to provide quality instructional leadership, principals must be involved on a daily basis in the instructional program. They must be knowledgeable of the curriculum and of specific teaching and learning activities in their schools. Furthermore, teachers must observe principals as providing direct instructional leadership.

At the beginning stages of implementation of the Instructional

Monitoring Plan, principals were reluctant to assume these responsibilities. Frequently there was the statement, "I do not have enough time to make classroom observations and hold individual conferences with teachers." As principals have become involved in daily supervisory responsibilities and have experienced academic achievement growth in their schools, they have become convinced of the value of leadership by the school principal.

If supervision is a requirement at the individual school level, central office administrators also must carry out an extensive program of supervision to assure that principals are in fact implementing daily and ongoing expectations for teaching and learning. During the year my office carries out ongoing supervision of the work of principals and schools in implementing an Instructional Monitoring Plan. Each school is visited a minimum of four times during the school year by me or my assistant. Also I have two extended conferences with each principal lasting for approximately three hours. At these conferences there is a review of school goals, achievement data results, and progress of principals in carrying out expectations for supervision. Principals are expected to bring documentation of their supervision to the conferences. Examples of documentation consist of their review of teachers' lesson plans, completed classroom observation reports prepared by the principal for all teachers, written feedback to teachers regarding student records, school reports, and daily work samples of students.

Effectiveness or the lack thereof by principals in implementing their responsibilities for supervision is reflected in their annual performance evaluations. Achievement results of students on the California Achievement Test and Basic Essential Skills Test are listed on-

the annual performance evaluations of principals with a comparison of current year to previous year.

School year 1984-85 was the first time that the Instructional Monitoring Plan was implemented in 29 middle schools in the St. Louis Public School System. Significant academic achievement growth occurred with the implementation of the monitoring plan last year. Table I lists growth as measured in grade equivalents and normal curve equivalents for grades 6, 7 and 8. This was the first year that the school system was at or above national norms at each of these three grades. Furthermore, there was an increase of 17 percentage points of students passing the Missouri State Department of Education, Mastery Test, the B.E.S.T.

SUMMARY

As stated at the beginning of the paper, the Instructional Monitoring Plan is based upon four very basic but extremely important processes. Staff must carefully define what is expected to be taught by teachers and learned by students. All faculty members must be aware of the curriculum that is to be taught. Schools must develop ongoing, detailed and systematic plans for improvement that include review of test data and setting quantitative and measureable goals. And fourth, continuous, intense and dynamic supervision must be carried out by the principal who is the instructional leader of the school. The fourth requirement of supervision also will require an extensive commitment of time by central office administrators to assure that all four steps are occurring.

The collective implementation of these four steps has resulted in significant learning gains by middle school students in the St.

Louis Public School System. The plan is one that can be carried out at all levels of the educational spectrum. The major requirements are a commitment to improvement, a systematic process of defining curriculum and instructional activities, and an extensive commitment of time by school administrators to direct involvement in leadership of instruction on a daily basis.

TABLE I

St. Louis Public Schools

California Achievement Test Results

Total Battery Results

Grade	Grade Equivalent*		Normal Curve Equivalent	
	1984	1985	1984	1985
6	6.6	6.8	49.0	50.4
7	7.8	8.0	50.7	51.7
8	8.8	9.3	50.5	53.6

*National norm GE is 6.7, 7.7 and 8.7 for grades 6, 7 and 8.

Basic Essential Skills Test

Test	Percentages of Students Passing	
	1984	1985
Reading/Language	85.8%	91.4%
Mathematics	65.6%	78.8%
Government/Economics	75.9%	83.3%
Three Sub-Tests	58.2%	71.3%
Local Reading Objectives	92.8%	94.3%
Local Math Objectives	94.0%	93.9%
All Sections of the BEST	55.2%	68.1%

APPENDIX A

The following four sample pages are taken from the CAT Correlation Skills List referred to on pages 4-7. The information on the List was compiled from the "Class Management Guide" for the California Achievement Test and the St. Louis Public School System Curriculum.

Pages i and ii show the correlation between CAT Category Objectives and the curriculum of the school system. The first column lists specific CAT Category Objectives. Following columns are organized by grade level.

> The "N" column indicates the number of test questions for each Category Objective at the specific grade tested.
>
> The "R", "L", "S", and "M" columns indicate if the Category Objective is addressed in the Reading, Language, Spelling and/or Math curriculum of the school system.

For example, on page i, Category Objective #38, "Inferred Meaning", is tested in grade 8. There are 7 questions on the test for this objective. The "Reading Curriculum" of the school system addresses the objective.

Pages iii and iv list sections of the teaching materials found in the curriculum according to applicable Category Objectives. Specific pages of teaching materials are listed for each Cagegory Objective.

CALIFORNIA ACHIEVEMENT TEST CORRELATION CHART

CAT Category Objective	Kg.			1st				2nd				3rd				4th				5th				6th				7th				8th			
	N	R	L	N	R	L	S	N	R	L	S	N	R	L	S	N	R	L	S	N	R	L	S	N	R	L	S	N	R	L	S	N	R	L	S
38 Inferred Meaning								8	X	-	-	7	X	-	-	8	X	-	-	9	X	X	-	7	X	-	-	9	X	-	-	7	X	-	-
39 Character Analysis								6	X	-	-	7	X	X	-	10	X	-	-	10	X	X	-	8	X	-	-	6	X	-	-	7	X	-	-
40 Figurative Language								0	X	-	-	5	X	-	-	8	X	-	-	8	X	X	-	7	X	-	-	6	X	-	-	7	X	-	-
41 Real/Unreal Elements				0	X	-	-	0	X	-	-	5	X	-	-	0	X	X	-	0	X	X	-												
42 Author Attitude Position												0	X	-	-	5	X	X	-	5	X	X	-	6	X	-	-	5	X	-	-	6	X	-	-
43 Techniques of Persuasion																				0	-	X	-	6	X	-	-	8	X	-	-	6	X	-	-
44 Consonant Phonemes/ Graphemes				0	X	-	X	5	X	-	X	4	-	-	X	6	-	-	X	5	-	-	X	5	-	-	X	6	-	-	X	7	-	-	X
45 Vowel Phonemes/ Graphemes				0	X	-	X	4	X	-	X	6	-	-	X	8	-	-	X	7	-	-	X	7	-	-	X	5	-	-	X	5	-	-	X
46 Morphemic Units				0	X	-	X	4	-	-	X	4	-	-	X	4	-	-	X	5	-	-	X	5	-	-	X	7	-	-	X	6	-	-	X
Correct Words								7	-	-	X	6	-	-	X	2	-	-	X	2	-	-	X	2	-	-	X	2	-	-	X	2	-	-	X
47 I/Proper Nouns				0	X	X	X	4	-	X	X	5	-	X	X	0	-	X	X	0	-	X	X												
48 I/Proper Nouns/ Adjectives												0	-	-	X	5	X	-	X	5	-	X	X	5	-	X	-	5	-	X	-	5	-	X	-
49 Beginning Words				0	X	X	X	4	-	X	X	0	-	X	X	0	-	X	X	0	-	X	X												
50 Beginning Words/ Titles												4	X	-	X	4	-	-	X	4	-	X	X	4	-	X	-	4	-	X	-	4	-	X	-
51 End Marks				0	X	X	X	4	X	X	X	4	-	X	X	4	-	X	X	4	-	X	X	4	-	X	-								
52 End Marks/Colon/ Semicolon																				0	-	X	X	0	-	X	-	5	-	X	-	4	-	X	-

☒ = Objective is in the Curriculum ☐ = Objective is not in the Curriculum N = Number of items on CAT

Page 1

CALIFORNIA ACHIEVEMENT TEST CORRELATION CHART
MATH

CAT Category Objective Math	Kg.		1st		2nd		3rd		4th		5th		6th		7th		8th	
	N	M	N	M	N	M	N	M	N	M	N	M	N	M	N	M	N	M
69 Addition			10	X	10	X	10	X	10	X	10	X	10	X	10	X	10	X
70 Subtraction			10	X	10	X	10	X	10	X	10	X	10	X	10	X	10	X
71 Multiplication					5	X	10	X	10	X	10	X	10	X	10	X	10	X
72 Division							10	X	10	X	10	X	10	X	10	X	10	X
73 Numeration	6	X	5	X	9	X	5	X	5	X	7	X	6	X	6	X	9	X
74 Number Theory							5	X	5	X	7	X	6	X	5	X		
75 Number and Set Theory	4	X	10	X	9	X	0	X										
76 Number Sentences	4	-	7	X	0	X	0	X	5	X	5	X	6	X				
77 Number Theory/Sentences					0	X	0	X	0	X							7	X
78 Number Properties			0	X	0	X	0	X	4	X	5	X	4	X	0	X		
79 Number Sentences/Properties					7	X	6	X							4			
80 Common Scales	6	-	7	X	7	X	5	X	6	X	5	X						
81 Geometry							5	X	5	X					5	X	6	X
82 Measurement							7	X	6	X					11	X	10	X
83 Geometry/Measurement													6	X				
84 Graphs							8	X	4	X			8	X				
85 Measurement/Graphs					8	X	0	X										
86 Geometry/Measurement/Graphs			7	X	0	X	0	X			11	X						

☒ = Objective is in the Curriculum ☐ = Objective is not in the Curriculum N = Number of items on CAT

GRADE 8 CORRELATION OF CATEGORY OBJECTIVES WITH LANGUAGE MATERIALS

CAT Category Objective - Language	Language: Structure and Use, Level 8 Teacher's Edition	Language: Structure and Use Workbook, Level 8
48 I/ Proper Nouns/ Adjectives	22, 243-245, 250, 251, 530-531	92
50 Beginning Words/ Titles	101-102, 241-242, 243-245, 248-249, 250, 251, 530-531	91, 92, 93, 94
52 End marks/ Colon/ Semicolon	101-102, 222-223, 230-231, 236-237, 238, 239, 507, 509, 510	84, 87, 90
53 Comma/ Correct Sentences	124-125, 126-127, 140-142, 224-226, 227-229, 238, 239. 507, 529	See Workbook Index page 175
57 Pronouns	See index page T540	Refer to Workbook Index page 176
58 Verbs	See index page 541	Refer to Workbook Index page 176
59 Adjectives	See index page 537	25, 26, 29, 30, 78, 93
60 Subject/Verb	173-175, 176-177, 178-179, 180-181, 182, 183, 184, 185	63, 64, 65, 66, 67, 68, 69
62 Modifying/Transitional Words	367-369	134
63 Complete/Incomplete/Run-on	101-102, 346-347, 352, 353, 510, 520, 533-534	35, 127
64 Vebosity/ Repetition	332-333, 511, 533	118-124
65 Misplaced Modifiers	212-213, 214, 215, 216, 217	81-82, 83
67 Sequence/Topic Sentence	358-359, 534	130
68 Sequence/ Topic/ Concluding Sentence	358-359, 374, 375, 534	130

GRADE 8 CORRELATION OF CATEGORY OBJECTIVES WITH MATH MATERIALS

CAT Category Objective - Math	Holt School Mathematics, Grade 8 Teacher's Edition	Holt School Mathematics Workbook, Grade 7 Teacher's Edition	Mathematics for Individual Achievement, Book 8 Teacher's Edition	Mathematics for Individual Achievement Workbook, Grade 8 Teacher's Edition
69 Addition	52, 53, 70, 71, 110-115, 124, 220-223, 238, 239, 243	17, 37-39, 42, 47-49, 51, 54, 55. 74, 79	See Index page 412	16-20, 24, 26, 43, 44
70 Subtraction	54, 55, 70, 71, 116-119, 224-227, 240, 241	18, 40, 47-49, 51, 54, 55, 75, 80	See Index page 416	16-20, 24, 26, 44
71 Multiplication	30, 31, 56-59, 74-77, 126-129, 228, 229, 242, 243	19, 26, 27, 44, 45, 47, 76, 81, 82	See Index -page 414	1, 21, 27, 45
72 Division	32, 33, 60-62, 130, 131, 230, 231, 244	10, 20, 46, 47, 76, 83	See Index page 412	2, 3, 22, 28, 29, 46
73 Numeration	See Index page 406 (Number/s, Numeral/s and Numeration System)	Chapter 1, pages 1-8	See Index page 414 (Number/s - Numeral)	none
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